

## **DRAFT--Bristol Bay Web FAQs**

**May 1, 2012**

### **PROPOSED CATEGORIES TO ORGANIZE:**

- **Bristol Bay Watershed Assessment Basics**
- **What the Assessment Says About Bristol Bay**
- **EPA's Role**
- **Public Participation**

### **Why did EPA conduct this assessment? Why now, before it has received a mine proposal?**

EPA initiated this assessment in response to petitions from nine federally recognized tribes and other stakeholders who asked us to take action to protect Bristol Bay's salmon populations. They expressed concern that the Bristol Bay salmon fishery would be at risk from large-scale mining.

We also heard from other tribes and stakeholders who support development in the Bristol Bay watershed and have requested we take no action and wait for typical permitting processes.

EPA performed this assessment to better understand the watershed and its resources. The assessment will inform our response to these requests and any future actions EPA may take.

### **What is the scope of the EPA's watershed assessment?**

This scientific assessment focused on the Nushagak and Kvichak watersheds in Bristol Bay, which are open for large-scale resource development. We examined the current environmental conditions and possible short-term and long-term impacts of large-scale mining.

EPA reviewed existing scientific studies and data. The agency focused specifically on potential impacts to salmon. EPA also examined potential impacts to important resident fish species such as Dolly varden and rainbow trout, and wildlife such as bear, eagles and caribou. The assessment also looked at potential effects on indigenous subsistence cultures that are dependent on the salmon for their way of life.

The assessment did not consider all of the potential environmental impacts from mining. It did not consider impacts from a port facility, power generation, domestic waste disposal, or air emissions. It also did not consider direct impacts on wildlife or indigenous culture, only those related to salmon and attendant effects on the wildlife and native cultures of the region. It did not consider in detail the effects on recreation in the watersheds.

### **What questions did EPA aim to answer with this watershed assessment?**

The questions we aim to answer in the assessment are:

- Is the Bristol Bay salmon fishery a one-of-a-kind, world class fishery?
- What characteristics of the Bristol Bay make it productive for salmon and other fish?
- What are the existing and potential risks to Bristol Bay's salmon fishery associated with large-scale development activities such as hard rock mining?
- Are there technologies or practices that will mitigate these risks?

### **What does the assessment say about current conditions in Bristol Bay? (NEED KEY MESSAGES HERE)**

EPA's assessment found that Bristol Bay is indeed a one-of-a-kind, world-class fishery.

Key statistics on Bristol Bay's productivity and economics:

- Bristol Bay supports the largest sockeye salmon run in the world, producing approximately 46 percent of the world's wild sockeye between 1956 and 2005.
- The annual average run of sockeye in Bristol Bay was approximately 37.5 million fish between 1990 and 2010. In 2009, Bristol Bay's wild salmon ecosystem generated \$480 M in terms of direct annual economic expenditures in the region and sales per year and provided employment for over 14,000 full and part-time workers. Breakdown (in 2009\$):
  - Commercial fishery - \$300.2 M (based on first wholesale value)
  - Sport fisheries - \$60.5 M
  - Sport hunting - \$8.2 M
  - Wildlife viewing/tourism - 104.4 M
  - Subsistence harvest expenditures - \$6.3 M
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All five species of Pacific salmon spawn and rear in the Bristol Bay watershed: sockeye, Chinook, chum and pink. In addition, the Nushagak River supports one of the world's largest Chinook salmon runs. The Bristol Bay watershed provides habitat for 35 fish species, more than 190 bird species, and more than 40 terrestrial animals. Bristol Bay supports large carnivores such as brown bears, bald eagles, and wolves that depend on salmon; ungulates such as moose and caribou; and numerous waterfowl species.

Many of these species are a major source of food for Alaska Native Villages and residents of Bristol Bay.

#### **What kind of information did EPA collect and analyze for the assessment?**

EPA reviewed existing studies on:

- Bristol Bay salmon and other fish
- Bristol Bay wildlife
- Bristol Bay marine resources
- Salmon fishery economics
- Geology, hydrology, seismology and other environmental sciences
- Limnology, wetlands ecology and stream ecology
- Mining engineering, construction and operation
- Subsistence use data
- Cultural importance of salmon
- Mining industry practices that minimize mining impacts

EPA also gathered traditional ecological knowledge by conducting 54 interviews with tribal elders and knowledge bearers in six Bristol Bay villages. In addition, EPA examined available data on potential mine claims in the area and looked at information from other operating mines of similar types or in similar regions.

#### **Did EPA use data from the Pebble Limited Partnership baseline study?**

EPA considered the information in the document and used it where possible. While the information provided is useful, it is a summary of information and data. PLP declined to provide EPA with the underlying data. As a result, EPA could not do an independent analysis. EPA has referenced Pebble Limited Partnership data in the assessment when used.

#### **Did EPA collect subsistence data and traditional knowledge from Alaska Native Villages in Bristol Bay?**

The indigenous cultures in the Kvichak and Nushagak watersheds—the Yup'ik and the Dena'ina—are part of the last intact, sustainable salmon-based cultures in the United States. Salmon are a critical part of their economy and culture, and have been for at least 4,000 years.

According to statistics from the Alaska Department of Fish and Game, area residents get 80 percent of their protein from subsistence food sources such as salmon and often eat more than 300 pounds of subsistence food each year.

Subsistence forms the core of the culture itself, including knowledge, attitudes, practices and beliefs important to the Yup'ik and Dena'ina people in their daily lives.

Two anthropologists with extensive experience studying Alaska Native cultures collected and documented subsistence and traditional knowledge for the assessment. These anthropologists interviewed 53 tribal elders and culture bearers from seven Alaska Native villages. The results of these interviews and a characterization of local indigenous cultures are included as an appendix to the draft assessment report.

### **How could mining affect the Bristol Bay salmon fishery?**

Some of our key findings regarding salmon and mining include:

- Large-scale mining operations would cover or fill in large amounts of salmon habitat including many miles of streams and thousands of acres of wetlands.
- If water seeped through mine waste piles and breached or overtopped tailings dams, highly acidic water would be released into streams and likely would kill fish and destroy habitat.
- Accidents and failures are likely during the operation of the mine and after its closure. Failures could include contaminated leakage to surface and ground water; road culvert failure, pipeline failures and tailings dam failures.
- Polluted runoff and sediment from roads as well as washouts and culvert failures could damage or destroy fish habitat and block fish passage.
- The water taken from streams for mining operations could change the complex hydrology in the area that is critical for the salmon lifecycle.
- These impacts would be compounded if multiple mines are developed in the area. There are 17 existing mining claims in the watershed.
- Mine waste and water in contact with mine waste would need to be managed in perpetuity, long after mining has stopped.

### **What information did EPA base its mining scenario on?**

The mining scenario provides an overview of the mining practices associated with porphyry copper deposits and outlines a hypothetical but realistic series of mining scenarios.

The first scenario describes a minimum mining scenario (approximately 25 years of mining) and the second describes a maximum mining scenario (approximately 78 years of mining). The mining scenario addresses both the development and operation phase of a mine and the post-mining phase.

EPA used sources describing exploration and potential mining in the Bristol Bay watershed—including a publicly available mine plan for the proposed Pebble Mine—as well as sources from the worldwide body of literature related to mining of porphyry copper deposits. It was assumed that a mine would be developed to meet all state and federal standards and would be operated according to modern mining practices. The mining scenario is meant to reflect activities expected to be associated with large-scale mining in a general sense, rather than the specific characteristics of an individual mine. For example, EPA evaluated leakage or failure from one Tailings Storage Facility (TSF) in the headwaters near the Pebble deposit to evaluate the potential risks from these large waste storage facilities. The actual location may differ, but we would expect similar risks.

### **The mining scenarios include:**

- An open-pit mine (2 -7 square miles and 0.5 – 0.7 miles deep)
- A waste rock pile (5 -9 square miles)
- One to three Tailings Storage Facilities (TSF) with a total of 17 square miles and dam heights of 682 – 876 feet
- An 86 mile long road with four pipelines carrying ore slurry, return water, diesel, and natural gas

**When will the assessment become final?**

EPA will consider public comment and recommendations from a scientific review panel before finalizing the assessment by the end of 2012.

**What will happen after the assessment is completed?**

EPA anticipates finalizing its assessment by the end of 2012. The Agency will use this assessment to inform any future decision-making regarding the Bristol Bay watershed.

The Bristol Bay Watershed Assessment is a scientific document. It is not a regulatory or decision-making document.

EPA has not drawn any conclusions about actions it may take at this time.

**What authority is EPA using for its watershed assessment? We need Cara's review here**

EPA conducted this assessment under its Clean Water Act authorities, including Sections 104(a) and (b), which, among other things, direct the agency to:

*...conduct and promote the coordination and acceleration of, research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction, and elimination of pollution.*

**Is EPA invoking Clean Water Act section 404(c) with regard to the potential Pebble Mine?**

The draft watershed assessment examines the effects of large scale mining in general, including the potential mining of the Pebble ore deposit, since it is currently under consideration for development in the near future. The information we gather will establish a scientific foundation for any decisions EPA may make in the future. The agency is not invoking Clean Water Act section 404(c) at this time. The watershed assessment is not a regulatory action. The EPA regulations establish a clear process for the EPA to follow in taking an action under Section 404(c). This is not a part of that regulatory process.

**What is Clean Water Act Section 404(c)?**

Clean Water Act Section 404(c) authorizes EPA to restrict, prohibit, deny, or withdraw the use of a water body as a disposal site for dredged or fill material—if the discharge will have unacceptable adverse impacts on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas.

**Would a Clean Water Act 404(c) decision affect all future development proposals (e.g., an airstrip, fish-processing plant, refinery, hospital, school, museum) that may require a dredge or fill disposal site?**

The watershed assessment is not a regulatory action under Section 404(c). The EPA's assessment is a scientific assessment focused on large-scale mining in the Bristol Bay watersheds. If the EPA were to take a future action under Section 404(c), it is unlikely that local community development proposals would be affected as those projects are of a different scope and scale than a large-scale mine and do not involve waste materials that pose the same potential risks as some mining wastes. Any development that involves dredging or filling wetlands or streams already requires a permit and decisions on those permits are made on a case-by-case basis.

**Would a Clean Water Act 404(c) decision affect the villages' ability to discharge from their sewage treatment facilities?**

No. Sewage treatment plant discharges are regulated under a different section of the Clean Water Act law— Clean Water Act Section 402.

**Has EPA ever done an assessment like this before?**

EPA has conducted assessments that examine environmental impacts of past actions or potential impacts of future actions, including studies that:

- Predict the future introduction of non-indigenous species to the Great Lakes
- Assess the effects of mountaintop mines and valley fills on aquatic ecosystems in the Central Appalachian Coalfields
- Explore the environmental impacts of human activities in the Waquoit Bay watershed in Massachusetts.

There are many more examples of similar studies the agency has done in the past.

**Did EPA work with the State of Alaska to develop a plan to assess the watershed? Does the state have a role in this?**

EPA has had staff based in Alaska for decades who work regularly with the state's natural resource agency. EPA has been communicating with its state partners and welcomes their input in this effort.

We are looking forward to input from the State of Alaska on our draft assessment document. EPA is also seeking expertise from federal resource agencies and tribes.

**Will this affect mining prospects in Bristol Bay and other parts of Alaska? Are you setting a precedent?**

Each mining prospect has a unique set of circumstances that dictates the nature of the environmental review. Decisions about any particular mining prospect would be a result of the specific facts around that mining prospect and natural resources at risk, not as a result of this watershed assessment.

**What role does EPA play in the mining permitting process?**

EPA may be involved in a mining permitting process due to the Agency's authorities under the National Environmental Policy Act and Clean Water Act. Under NEPA, EPA reviews and comments on Environmental Impact Statements for proposed mines.

EPA also reviews and comments on proposed U.S. Army Corps of Engineers' permits for the discharge of fill material, which would be necessary for building roads, dams or other mining related activities that involve the discharge of dredged or fill material into waters of the U.S. Under the Clean Water Act Section 404, EPA reviews the proposed permit's public notice, can elevate concerns to the Corps, and can put restrictions on projects under Clean Water Act Section 404(c).

Under Clean Water Act Section 402, EPA provides oversight of the state's wastewater discharge (Alaska Pollutant Discharge Elimination System) permits and can object to permits that do not meet requirements.

EPA may also have a role in reviewing air permits and writing underground injection control permits.

**What happens if permit applications are submitted for the Pebble Mine during the watershed assessment process?**

If the Pebble Limited Partnership submits permit applications, EPA will continue its work on its assessment. The agency would also work with other federal agencies and the state in the environmental review and permitting process. The watershed assessment would be used to inform these processes.

**What public involvement opportunities are planned?**

There is a 60-day comment period, beginning on the day of the draft assessment release. Public meetings will be held June 4-8 in Alaska at the following locations: Anchorage, Dillingham, Newhalen, Naknek, Nondalton and New Stuyahok.

Public comments may be submitted through the Federal Register ([LINK HERE](#)) or in person at the meetings.

In addition, there is an opportunity to provide comments to the external peer review panel in August through a separate process. The external peer review panel meeting is scheduled to be held in Anchorage on August 7, 8, and 9, 2012. The public will be invited to attend on August 7 and 8, 2012. For more information on how to submit comments, visit [INSERT LINK HERE](#).